

ANALYSIS OF THE MERCATOR POLICY OPTIONS

***I-77 EXPRESS
LANES***

Local Advisory Group Meeting #5

March 27, 2018

Group Purpose

Advise and Provide Input for the NCDOT Secretary

- a) Analyze Mercator Report 'Options to Consider'*
- b) Assess potential changes for the I-77 Express Lanes Project's Scope and P3 Contract*



Introductions and Roles

- **Local Advisory Group**

Provides input; analyzes pros and cons of various options

- **NCTA Staff**

Liaison with NCDOT; point of contact for LAG information requests

- **Mercator / RS&H Team**

Researches and presents options; brings expertise with projects of this size and scope

- **Facilitators**

Helps group have productive discussion and use its time effectively

Purpose and Approach: Ground Rules

- **“Share the Air”**
- **Listen to Others’ Perspectives**
- **Focus on Interests Before Taking Positions**
- **Seek Common Ground and Action**
- **When Speaking to Press and Public, Share Your Own View; Avoid Attributions About What Others Said**
- **Report Back to Your Respective Appointing Organizations**



Agenda – Meeting #5

- **Introduction**
- **Status of Information Requests**
- **Continue Policy Option Assessment**
- **Introduce Evaluation Matrix**
- **Closing**



Information Requested at the LAG Meeting #4

Information Already Provided

- **Clarify Language Used to Define “Contiguous Projects” for Corridor Cap in STI Law.**
- **Provide a Link that Explains the STI Process**

Information Being Gathered

- **Provide Examples of Express Lanes Projects that Allow vs. Prohibit Usage of Trucks**
- **How would the Life Expectancy of I-77 Express Lanes Pavement Change with or without Trucks Being Allowed?**
- **What are the Projections for Number of HOT3+ Users in the NEPA Analysis?**
- **Run a Hypothetical Scenario with STI for I-77 Termination Options**
- **Difference in Toll Rates Under Public vs. Private Operated Facilities**

MERCATOR OPTIONS

Mercator Policy Options

Option A: Terminate the CA and Complete the Express Lanes Project Using Public Funding or Financing as it Becomes Available

Option B: Terminate the CA and Allow CRTPO to Determine Whether Express Lanes Should Remain in the Transportation Plan or be Replaced or Supplemented with Other Improvements Based on Available Resources

Option C: Negotiate Modifications to the Project Scope and/or the Terms of the CA, Such as:

C.1 - Deferring or eliminating tolling of certain lanes

C.2 - Reduce the financial impact on local residents by establishing frequent user discounts or toll credits

C.3 - Revising the truck restrictions to allow larger vehicles that can use the express lanes safely

C.4 - Encouraging greater use of new capacity by allowing HOT2+ for some period of time

C.5 - Modifying the compensation provisions for unplanned revenue impacting facilities

Option D: Work with CRTPO to Identify and Advance Additional Improvements to Address Mobility Issues in the Corridor

Option E: Develop Preliminary Plans to Negotiate and Finance the Purchase of the Express Lanes Project After Completion

Option F: Complete and Delete

ASSESSMENT FACTORS

COSTS, APPROVALS, AND SCHEDULE IMPACTS

Assessment Factors

- **Potential Cost Impacts**

- What are the costs associated with each Option to terminate, modify contract, stop construction, and complete construction by NCDOT?
- How would the toll revenue be affected?

- **Required Scope and Funding Approvals**

- What approvals would be needed for each Option based on the funding needs and scope changes?

- **Schedule Impacts**

- What are the schedule impacts for funding, approvals, and construction of the facility?

Cost Impacts

- **Cost of Termination**
- **Cost to Complete**
- **Temporary Construction**
- **Demobilization of Contractor and Developer**
- **Design and Construction Modifications**
- **Other**

Required Scope and Funding Approvals

- **CRTPO MTP Project List Amendments**
- **Strategic Transportation Investments (STI) Project Prioritization**
- **Air Quality Conformity Determination**
- **Environmental Documentation**
- **FHWA and Other Agency Reviews**
- **This List Excludes Lenders and Investors**

Schedule Impacts

- **Obtaining Required Approvals**
- **Preparing Necessary Document and Design Revisions**
- **Obtaining Funding**
- **Completing Facility Construction**

OPTION ASSESSMENT

COSTS, APPROVALS, AND SCHEDULE IMPACTS

C.3 - Revising the Truck Restrictions to Allow Larger Vehicles That Can Use the Express Lanes Safely

- **Current Contract does not Allow:**
 - Vehicles with more than two axles
 - Vehicles >20' long or >8.5' wide or >12' high
- **Transit and Emergency Response Vehicles are Exempt from this Restriction**
- **Mercator Report Referenced Modifying or Replacing that Standard with**
 - A standard based on gross vehicle weight or other criteria that would permit access to box trucks and other large vehicles that can use the Express Lanes safely
- **Additional Consideration:**
 - Specific vehicle types would need to be defined

Cost Impacts – C.3

| COST & REVENUE IMPACT OF ITEM | APPROXIMATE COST | NOTES |
|---|------------------|--|
| C.3 – Scope Changes would Need to be Evaluated with Specific Vehicle Types, Revenue Impact is Unknown | TBD | Specific vehicle type and length will need to be determined as well as toll rate difference if any, to determine how it impacts the Express Lanes from an operations and a revenue standpoint. No additional construction costs anticipated. |

Scope and Funding Approvals – C.3

| APPROVALS | REQUIRED? | NOTES |
|--------------------------------------|-----------|--|
| CRTPO MTP Project List Amendment | Yes | Project scope would be different. |
| STI Project Prioritization | No | Do not expect any additional Project funding needs. |
| Air Quality Conformity Determination | Yes | Project scope would be different. |
| Environmental Documentation | Yes | Revised document would need to be prepared for the scope change. |
| FHWA and Other Agencies | Yes | Additional reviews and associated approvals. |

Schedule Impacts – C.3

- **This Option would not Require Stopping the Construction**
- **Negotiations for Contract Modifications would Need to be Held to Determine Impacts on Specific Type of Truck Allowance**
- **Implementation of Truck Allowance would be Dependent on the Scope and Funding Approvals Schedule**

Discussion of Option C.3

- **Are You Ready to Start Talking About the Pros/Cons of This Option?**
- **How Do You See the Pros/Cons of This Option?**
- **Is There Any Additional Information You Want to Understand This Option?**

C.4 - Encouraging Greater Use of New Capacity by Allowing HOT2+ for Some Period of Time

- **Current Contract Allows Usage of Express Lanes for Free for HOT3+ Vehicles**
- **Mercator Report Referenced Allowing HOT2+ Vehicles to Use the Express Lanes During the Initial Period of Operation**
 - Ease the transition to HOT3+ and encourage more drivers to obtain transponders and use the express lanes

Cost Impacts – C.4

| COST & REVENUE IMPACT OF ITEM | APPROXIMATE COST | NOTES |
|--|------------------|--|
| C.4 No Scope Change Costs but Reduction in Revenue | <\$50M | The time period for HOT2+ would need to be evaluated to determine the actual revenue impact of this Option. The “<\$50M” estimate assumes that HOT2+ are allowed for some time based on performance. No additional construction costs anticipated. |

Scope and Funding Approvals – C.4

| APPROVALS | REQUIRED? | NOTES |
|--------------------------------------|-----------|---|
| CRTPO MTP Project List Amendment | Yes | Project scope would be different. |
| STI Project Prioritization | No | Do not expect any additional Project funding needs – however, a decision needs to be made about funding source for discounts. |
| Air Quality Conformity Determination | Yes | Project scope would be different. |
| Environmental Documentation | Yes | Revised document would need to be prepared for the scope change. |
| FHWA and Other Agencies | Yes | Additional reviews and associated approvals. |

Schedule Impacts – C.4

- **This Option would not Require Stopping the Construction**
- **Negotiations for Contract Modifications would Need to be Held to Determine Impacts of HOT2+ Usage and Schedule Change**
- **Implementation of HOT2+ would be Dependent on the Scope and Funding Approvals Schedule**

Discussion of Option C.4

- **Are You Ready to Start Talking About the Pros/Cons of This Option?**
- **How Do You See the Pros/Cons of This Option?**
- **Is There Any Additional Information You Want to Understand This Option?**

C.5 - Modifying the Compensation Provisions for Unplanned Revenue Impacting Facilities

- **Contract Allows the Developer to Seek Compensation if:**
 - A main lane within the right-of-way airspace of the project is added and adversely affects toll revenue
- **Planned Facilities at the Time of Contract Execution are not Subject to Compensation Provisions, Except for:**
 - An additional general purpose lane between exits 28 and 36
- **Contract Modification could Evaluate a Time Period Prior to Implementing Such Improvements**

Cost Impacts – C.5

| COST & REVENUE IMPACT OF ITEM | APPROXIMATE COST | NOTES |
|-----------------------------------|------------------|---|
| C.5 Potential Impacts are Unknown | <\$50M | This Option will not impact the Project unless adding additional main line lanes along I-77. The “<\$50M” estimate could vary significantly depending on when NCDOT would acquire the rights to build and/or when sufficient funding is allocated to build the additional main lanes along I-77 through the STI Project Prioritization Process. |

Scope and Funding Approvals – C.5

| APPROVALS | REQUIRED? | NOTES |
|--------------------------------------|-----------|--|
| CRTPO MTP Project List Amendment | No | However, MTP project list amendments would be needed for the identified unplanned facilities. |
| STI Project Prioritization | No | Do not expect any additional Project funding needs – however, a decision needs to be made about funding lost revenue. Also, STI Project Prioritization would need to be performed to obtain funding for the identified unplanned facilities. |
| Air Quality Conformity Determination | No | However, air quality conformity determination would be needed for the identified unplanned facilities. |
| Environmental Documentation | No | However, additional environmental documentation would be needed for the identified unplanned facilities. |
| FHWA and Other Agencies | No | However, additional reviews and approvals would be needed for the identified unplanned facilities. |

Schedule Impacts – C.5

- **This Option would not Require Stopping the Construction.**
- **Contract Modifications would be Dependent on Identifying Specific Unplanned Revenue Impacting Facilities**
- **Depending on the Identified Unplanned Facilities, Additional Studies would Need to be Performed Before Constructing Those Facilities**

Discussion of Option C.5

- **Are You Ready to Start Talking About the Pros/Cons of This Option?**
- **How Do You See the Pros/Cons of This Option?**
- **Is There Any Additional Information You Want to Understand This Option?**

D: Work with CRTPO to Identify and Advance Additional Improvements to Address Mobility Issues in the Corridor

- **Developer would Complete the Project with Current Scope, Including Tolled Express Lanes**
- **Contract Allows Other Projects to be Advanced**
- **This Option Focuses on Additional Improvements in the I-77 Corridor**

Cost Impacts – D

| COST & REVENUE IMPACT OF ITEM | APPROXIMATE COST | NOTES |
|----------------------------------|------------------|--|
| D. Potential Impacts are Unknown | TBD | This option will not impact the Project unless adding additional main line lanes along I-77. |

Scope and Funding Approvals – D

| APPROVALS | REQUIRED? | NOTES |
|--------------------------------------|-----------|--|
| CRTPO MTP Project List Amendment | No | However, MTP project list amendments would be needed for the identified additional improvements. |
| STI Project Prioritization | No | However, STI Project Prioritization would need to be performed to obtain funding for the identified additional improvements. |
| Air Quality Conformity Determination | No | However, air quality conformity determination would be needed for the identified additional improvements. |
| Environmental Documentation | No | However, additional environmental documentation would be needed for the identified additional improvements. |
| FHWA and Other Agencies | No | However, additional reviews and approvals would be needed for the identified additional improvements. |

Schedule Impacts – D

- **This Option would not Require Stopping the Construction**
- **Depending on the Additional Improvements Identified, Subsequent Studies would Need to be Performed Before Constructing Those Facilities.**
- **If Additional Improvements Meet the Definition of Unplanned Revenue Impacting Facilities, Potential Compensation Impacts would Need to be Negotiated.**

Discussion of Option D

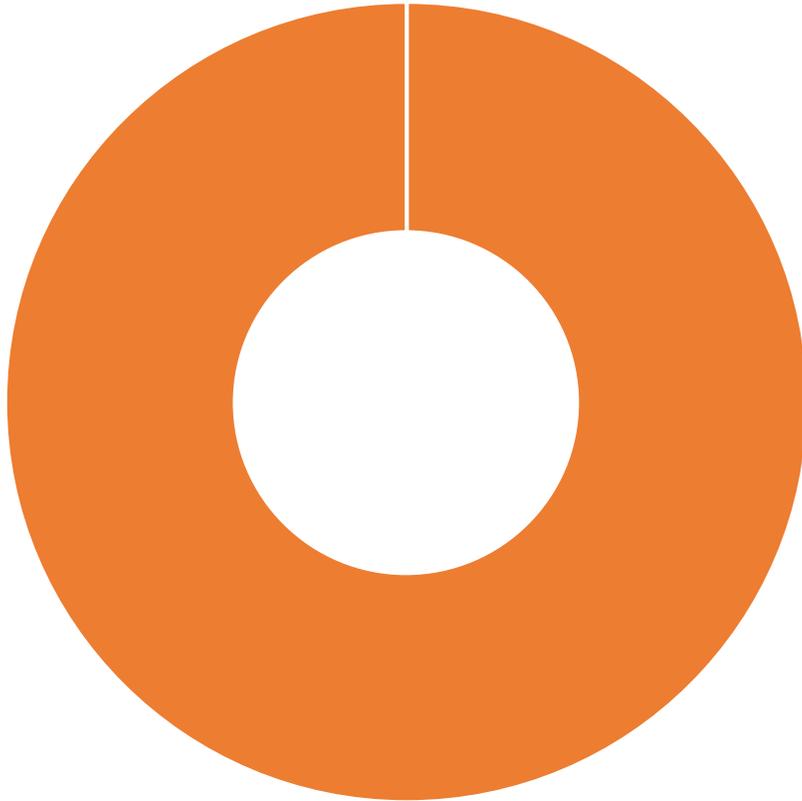
- **Are You Ready to Start Talking About the Pros/Cons of This Option?**
- **How Do You See the Pros/Cons of This Option?**
- **Is There Any Additional Information You Want to Understand This Option?**

E: Develop Preliminary Plans to Negotiate and Finance the Purchase of the Express Lanes Project After Completion

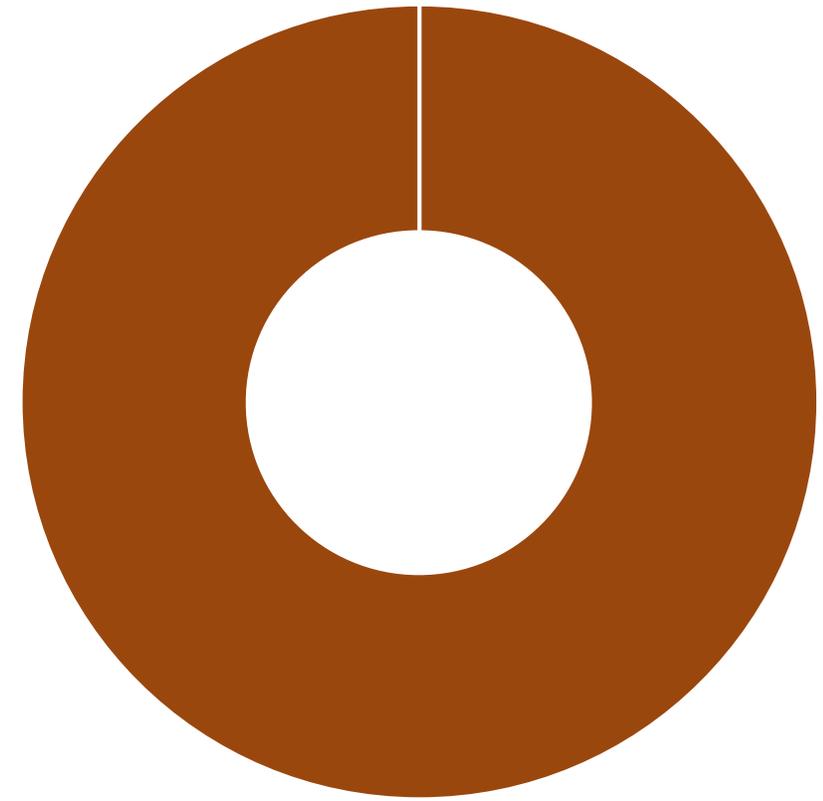
- **Developer would Complete the Project with Current Scope, Including Tolled Express Lanes**
 - Developer would operate and maintain the entire facility for some period of time
- **NCDOT would Purchase the Contract After Opening the Facility**
 - NCDOT would take over the operations and maintenance of the entire facility including the tolled express lanes
 - Timing of the transition has not been defined

Cost Impacts – E

Senior Debt



Fair Market Value (FMV)



Termination is greater of Senior Debt plus allowable costs or Fair Market Value of the Project less Cost to Complete and allowable costs

Fair Market Value - Senior Debt Comparison as of 12/31/16

| | AMOUNTS IN \$ MILLIONS | ASSUMED WEIGHTED AVERAGE COST OF CAPITAL | [i] Fair Market Value* Estimate as of 12/31/16 | [ii] Estimated Senior Debt* Termination as of 12/31/16 | Greater of i and ii Termination Compensation |
|-------------------|---|--|---|---|---|
| SCENARIO A | Calculation with Equity Participant's Advisor Projection of Traffic and Revenue | 11.00% | \$125 | \$149 | \$149 |
| SCENARIO B | Calculation with 50% of Equity Participant's Advisor Projection of Traffic and Revenue | 9.00% | (\$2) | \$149 | \$149 |
| SCENARIO C | Calculation with 150% of Equity Participant's Advisor Projection of Traffic and Revenue | 13.00% | \$168 | \$149 | \$168 |

***Termination is greater of Senior Debt plus allowable costs or Fair Market Value of the Project less Cost to Complete and allowable costs. All costs are estimates and do not include demobilization costs, breakage costs, or additional allowable costs.**

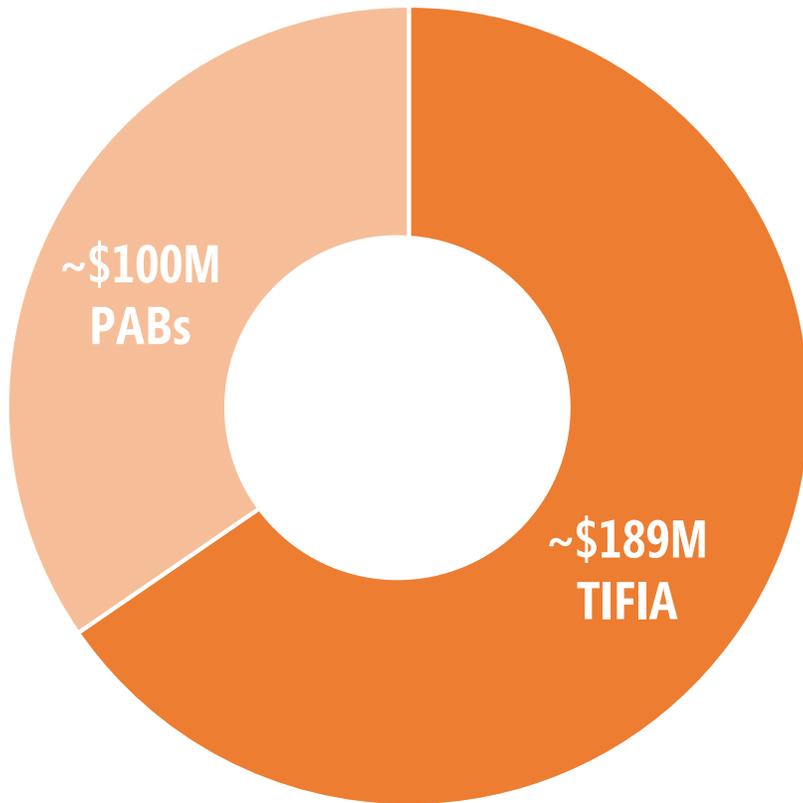
Fair Market Value - Senior Debt Comparison as of 01/01/19

| | AMOUNTS IN \$ MILLIONS | ASSUMED WEIGHTED AVERAGE COST OF CAPITAL | [i] Fair Market Value* Estimate as of 1/1/19 | [ii] Estimated Senior Debt* Termination as of 1/1/19 | Greater of i and ii Termination Compensation |
|-------------------|---|--|---|---|---|
| SCENARIO A | Calculation with Equity Participant's Advisor Projection of Traffic and Revenue | 11.00% | \$555 | \$289 | \$555 |
| SCENARIO B | Calculation with 50% of Equity Participant's Advisor Projection of Traffic and Revenue | 9.00% | \$392 | \$289 | \$392 |
| SCENARIO C | Calculation with 150% of Equity Participant's Advisor Projection of Traffic and Revenue | 13.00% | \$623 | \$289 | \$623 |

***Termination is greater of Senior Debt plus allowable costs or Fair Market Value of the Project less Cost to Complete and allowable costs. All costs are estimates and do not include demobilization costs, breakage costs, or additional allowable costs.**

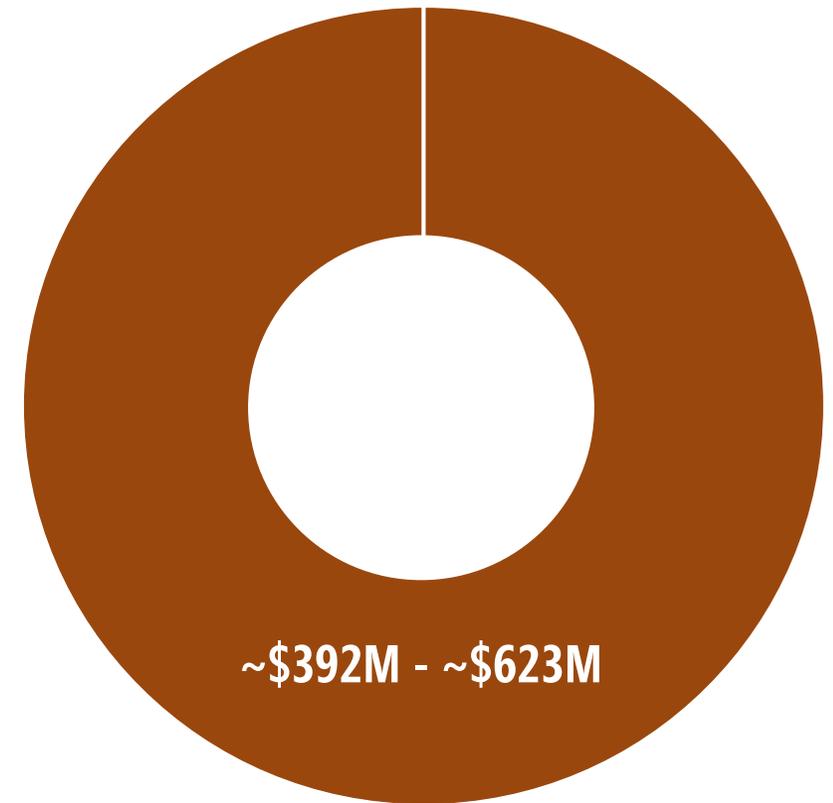
Cost Impacts - E

Senior Debt



Termination is greater of Senior Debt plus allowable costs or Fair Market Value of the Project less Cost to Complete and allowable costs

Fair Market Value (FMV)



All costs are estimates and do not include demobilization costs, breakage costs, or additional allowable costs.

Scope and Funding Approvals – E

| APPROVALS | REQUIRED? | NOTES |
|--------------------------------------|-----------|--|
| CRTPO MTP Project List Amendment | No | No change in the Project scope provided the Project is open by horizon year 2025. |
| STI Project Prioritization | Yes | In order to obtain funds to pay for the termination, STI Project Prioritization would be required. Next Prioritization is expected to occur between 2019 and 2021, which prioritizes projects to be included in the funded project list for FY2022 to FY2031. Inclusion of I-77 Project termination in this list is dependent on competition against other projects and availability of funding. |
| Air Quality Conformity Determination | No | No change in the Project scope provided the Project is open by horizon year 2025. |
| Environmental Documentation | No | No change in the Project scope and Project’s purpose and need statement. |
| FHWA and Other Agencies | No | None anticipated - no change in the Project scope. |

Schedule Impacts – E

- **This Option would not Require Stopping the Construction**
- **After Opening the I-77 Express Lanes, Negotiations for Contract Termination would Need to be Held Based on the Project Performance**

Discussion of Option E

- **Are You Ready to Start Talking About the Pros/Cons of This Option?**
- **How Do You See the Pros/Cons of This Option?**
- **Is There Any Additional Information You Want to Understand This Option?**

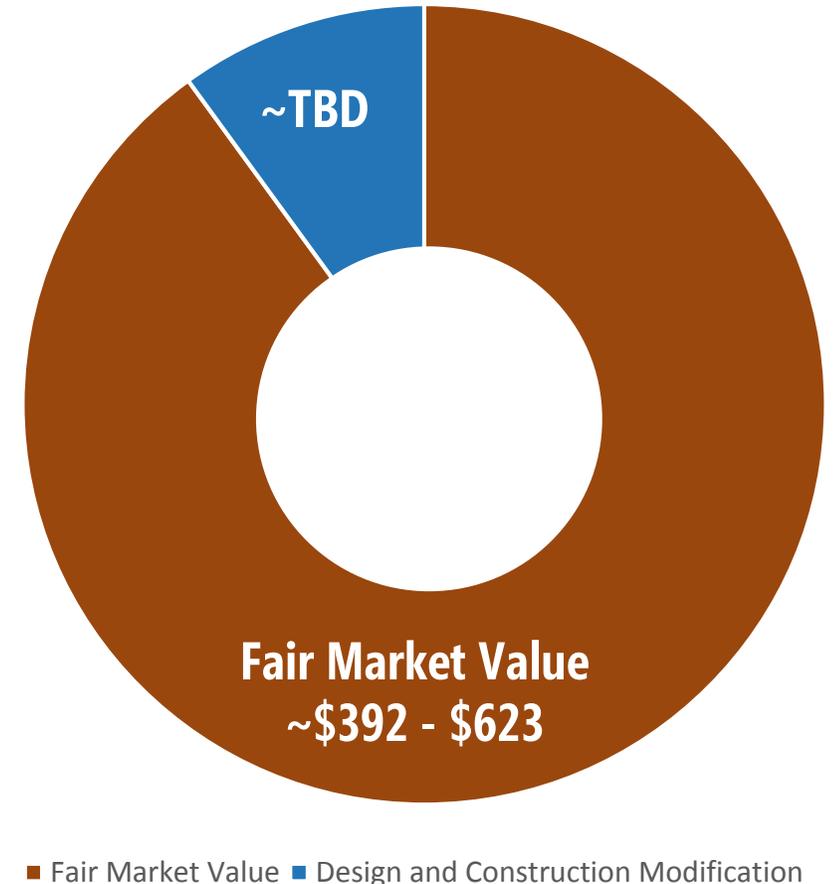
F: Complete and Delete

- **Developer would Complete the Construction of Additional Lanes**
- **Contract would be Modified to “Delete” the Electronic Toll Collection System**
 - Effectively converting the express lanes to general purpose lanes
- **Contract would be Terminated After Construction is Complete**
- **NCDOT would Operate and Maintain the New Lanes**
 - Which would be open to all traffic except heavy trucks
 - Existing HOV lane limits would be retained
- **Additional Considerations:**
 - Overpass bridge structures conflict with expanding new lanes adjacent to current general purpose lanes in south and central sections
 - Maintain current ingress/egress access and direct connectors vs. reduced/limited access

This information is based on public feedback on the Draft Mercator report and does not reflect how this Option could be implemented.

Cost Impacts – F

| COMPLETION COST ITEM | APPROXIMATE COST | NOTES |
|---------------------------------------|------------------|---|
| Design and Construction Modifications | TBD | Scope questions remain regarding leaving as a non-tolled express lane system or adjacent general purpose lanes. Also, south and central sections have overpasses conflicting with having all lanes adjacent to one another. |



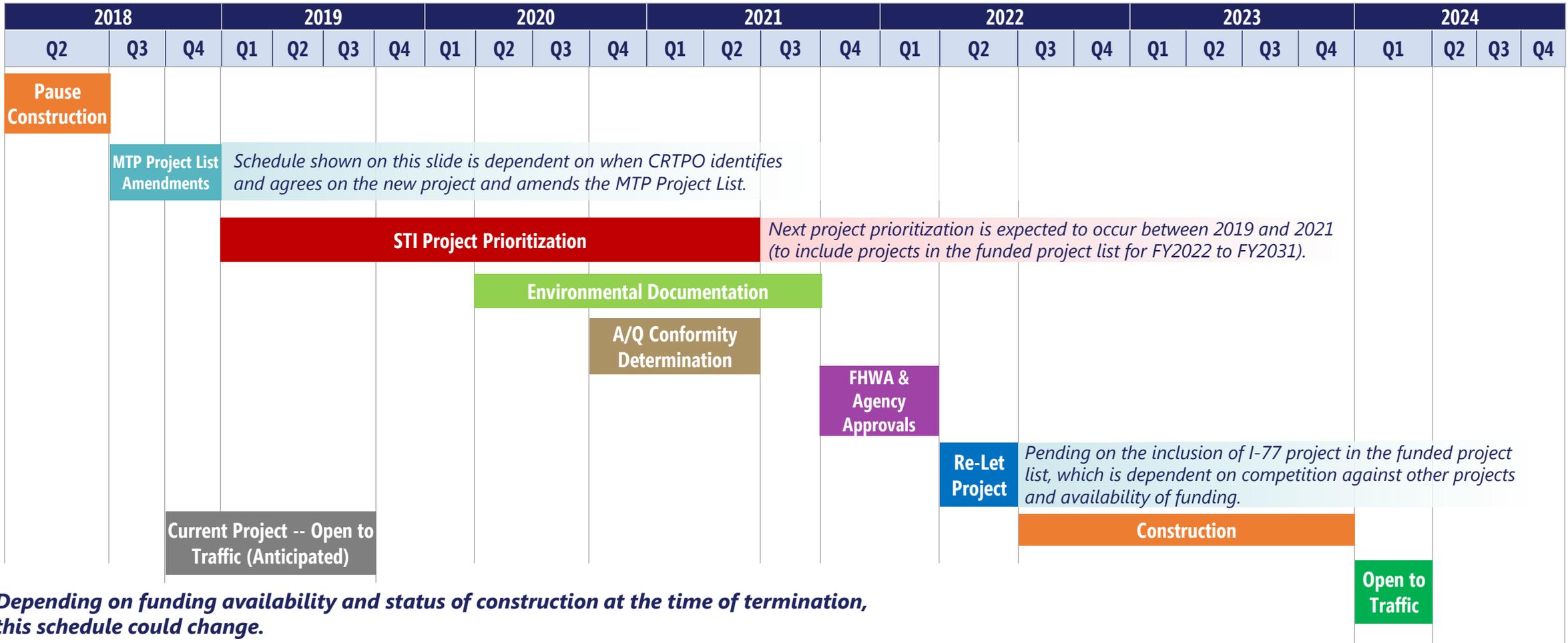
All estimates do not include additional allowable amounts per contract for Termination and also assume that the public funds are utilized as planned.

Scope and Funding Approvals – F

| APPROVALS | REQUIRED? | NOTES |
|--------------------------------------|-----------|--|
| CRTPO MTP Project List Amendment | Yes | Project scope would be different. |
| STI Project Prioritization | Yes | In order to obtain funds to pay for the termination, STI Project Prioritization would be required. Next Prioritization is expected to occur between 2019 and 2021, which prioritizes projects to be included in the funded project list for FY2022 to FY2031. Inclusion of the I-77 Project in this list would be dependent on competition against other projects and availability of funding. |
| Air Quality Conformity Determination | Yes | Project scope would be different. |
| Environmental Documentation | Yes | Revised document would need to be prepared for the scope change. |
| FHWA and Other Agencies | Yes | Additional reviews and associated approvals. |

OPTION F: COMPLETE AND DELETE

Schedule Impacts – F



Discussion of Option F

- **Are You Ready to Start Talking About the Pros/Cons of This Option?**
- **How Do You See the Pros/Cons of This Option?**
- **Is There Any Additional Information You Want to Understand This Option?**

EVALUATION MATRIX

Introduction to Evaluation/Summary Matrix

| Mercator Policy Option | Evaluation Factors | | | | | | | | | |
|--|--------------------|--------------------------------------|----------------------|--------------------------|-----------------|----------------|------------------|----------------------|------------------------------------|--------------------------|
| | Cost Impacts | Schedule Impacts to Open the Project | Requires STI Scoring | Requires CRTPO Approvals | Contract Action | State Operated | Includes Tolling | Reliable Travel Time | Adds General Purpose Lane Capacity | Bonus Allocation Impacts |
| A. Terminate the CA and (NCDOT) Complete the Project. | | | | | | | | | | |
| B. Terminate the CA and the Project | | | | | | | | | | |
| C-1. Eliminate Tolling of Certain Lanes | | | | | | | | | | |
| C-2. Reducing the Financial Impact on Frequent Users (Discounts or Caps) | | | | | | | | | | |
| C-3. Allow Certain Trucks that can Use the ELs Safely | | | | | | | | | | |
| C-4. Allow HOV2 for Some Period of Time | | | | | | | | | | |
| C-5. Modify the Compensation Provisions for Unplanned Revenue Impacting Facilities | | | | | | | | | | |
| D. Work with CRTPO to Identify and Advance Other Projects | | | | | | | | | | |
| E. Purchase the Project After Completion | | | | | | | | | | |
| F. Complete and Delete | | | | | | | | | | |

Closing / Questions / Next Steps

- **Summarize Additional Information Requested**
- **Proposed Priorities/Topics for Meeting #6**
- **Meeting Evaluation**

THANK YOU!